PRELIMINARY ASSESSMENT

BAKER BEAN AND FEED

POWELL, PARK COUNTY, WYOMING

TDD #F08-9106-15 - PAN #FWY0093PAA

EPA ID #WYD151592037

EPA SITE ASSESSMENT MANAGER: LUKE CHAVEZ

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REVIEWED BY:

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LUKE CHAVEZ, SITE ASSESSMENT MANAGER

DATE SUBMITTED: SEPTEMBER 27, 1991

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1.0 INTRODUCTION AND OBJECTIVES

This Preliminary Assessment (PA) of the Baker Bean and Feed site in Powell, Park County, Wyoming has been prepared to satisfy the requirements of Technical Directive Document (TDD) #F08-9106-15 issued to Ecology and Environment, Inc. Field Investigative team (FIT) by the Region VIII office of the U.S. Environmental Protection Agency (EPA).

On January 17, 1990 the Region VIII EPA-Emergency Response Branch (EPA-ERB) tasked the Environment and Ecology, Inc., Technical Assistant Team (TAT) to respond and provide technical assistance to a pesticide warehouse fire at Baker Bean and Feed in Powell, Wyoming. TAT members Karen Abbenhaus and Linda Morrison responded to the site on January 18, 1990. Numerous samples were taken from the surrounding surface water, soil, and from the fire site before and after clean-up.

The objectives of this Preliminary Assessment are to:

- Describe the local environmental pathways and their associated targets which may have been affected by contaminant releases from the site;
- Confirm disposal of unburned pesticide waste;
- Confirm clean-up actions by the responsible party.

2.0 SITE DESCRIPTION

2.1 SITE LOCATION

Baker Bean and Feed is located in Township 55 North, Range 99 West, at 313 South Fair Street in Powell, Park County, Wyoming. The site coordinates are 44° 44′ 59" north latitude and 108° 46′ 11" west longitude. The warehouse is in a mixed commercial and industrial area, and the closest residences are located approximately one and half blocks to the south, north, and southeast. Parkside School is two blocks directly north of the site and a baseball park is two blocks to the south. Garland Canal runs directly next to the site on the north boundary.

2.2 SITE HISTORY

TAT was notified on January 17,1990 to respond to a warehouse fire involving pesticides at Baker Bean and Feed. At the time of the fire, the warehouse was stocked with the following pesticides, as provided by the PRP (Ecology and Environment, Inc. 1990):

Counter 15G (Terbufos)	100 pounds
Dual 25G (Metolachlor)	100 pounds
Malathion 6% Dust	50 pounds
Malathion 2% Dust	20 pounds
Isotox seed treat (Lindane)	70 pounds
Benlate DF (Benomyl)	350 pounds
Temik 15G (Aldicarb)	645 pounds

TAT arrived on site on January 18, 1990 and met with Peter Stevenson, the On-Scene Coordinator (OSC), the Wyoming Department of Environmental Quality (WDEQ), Ralph Heare (owner of Baker Bean and Feed), Dick Kahl (Baker's attorney), and Mick Tomlin (adjuster for Manville Claims Service). Site safety precautions and sampling locations were discussed.

Between January 19-21, 1990, TAT collected the following samples (Figure 2):

- Onsite surface water samples from two puddles of fire water runoff;
- Surface water sample taken from landfill pond where fire runoff water was taken;
- Sixteen soil samples from area surrounding site;
- Two irrigation water samples (one upstream and one downstream from the site);
- Two dead fish samples taken from the canal downstream;
- Four samples from the pesticide storage area from the east, middle, west, and behind the pile of burned pesticides;
- Three clean-up confirmation samples from the east, south, and west side of the debris surrounding the removal area.

Samples were shipped via Federal Express to Chemex, International for analysis. All soil samples were analyzed for the six pesticides, with the exceptions of samples BB-SO-01 and BB-SO-15, which were analyzed for all phosphated and chlorinated pesticides, chlorinated herbicides, carbamates, base/neutral/acid extractable organics (BNAs) and RCRA characteristics. The water samples were analyzed for the six pesticides. Waste and debris samples were analyzed for all phosphated and chlorinated pesticides, carbamates, BNAs and RCRA characteristics. Canal water samples, offsite soil samples, dead fish samples, and post clean-up results are presented in Table 1.

The runoff water used to extinguish the fire flowed to the north and to the south of the site, and was contained in temporary dikes and

embankments. Later the fire water was hauled to waste disposal at the city landfill (Ecology and Environment, Inc. 1990).

On January 21, 1990 TAT observed and documented the pesticide removal. West Hazmat, the clean-up contractor, segregated all debris from different areas of the pile and staged the debris in separate 55-gallon steel drums. A total of nine drums were filled with debris, including soil from the surrounding area, and removed from the site (Ecology and Environment, Inc. 1990).

2.3 CURRENT SITE ACTIVITIES

A new warehouse facility was erected on the same concrete foundation, with the same dimensions as the original building. The business operations have returned to normal distribution and retail sale of fertilizer, bean seed, grains and various feeds. Minimal amounts of pesticides are currently kept on hand, due to the "buy as we sell" policy that Baker now follows (Beerline 1991).

Based on the results provided by TAT, the concentrations of Lindane, Malathion and Metolachlor after clean-up were far below dangerous exposure levels in samples taken prior to clean-up. The BNA results reflect combustion residuals, and the source of these residuals has been removed from the site. A comparison of data from the irrigation ditch adjacent to the site shows that upstream (BB-SW-03) and downstream samples (BB-SW-04/6) contain no contamination. The detection limits applied in the analysis of these samples ranged from .05 to .50 µg/l (Table 1). The site poses no threat to the surrounding population.

2.4 GEOLOGY, HYDROGEOLOGY, HYDROLOGY

2.4.1 Geology

Powell, Wyoming is located at 4300 feet in the broad Shoshone Valley in the Bighorn Basin, bordered on nearly all sides by high mountain ranges. Gravel terraces rise above the valley alluvium to the

adjoining Bighorn Mountains (at 7000 to 9500 feet) on the east and south, and the Beartooth, Absaroka and Shoshone mountains on the west. McCullock Peak lies 12 miles to the southwest of Powell at an altitude of 6000 feet. Heart Mountain, an isolated butte 20 miles to the west, is another prominent topographic feature at 8000 feet. Between Heart Mountain and McCullock Peak are several hogback ridges, due to minor folding.

Powell is situated on the Cretaceous Laramie Formation, which consists of sandstone, shales, clays and unpredictable layers of coal. Overlying the Laramie Formation is the Tertiary Wasatch Formation, which consists of sand, clay and conglomerate, and appears in outcrops along the southwestern edge of the Shoshone Valley near Powell. Above the Wasatch Formation lies Polecat Bench, an extensive Quaternary gravel terrace that borders Powell to the northwest.

2.4.2 Hydrogeology

The Laramie Formation consists of sandstone underlying shale, which traps large reservoirs of water in the Shoshone Valley aquifer. The dips in the central basin are gentle, while the steep slopes on the sides afford excellent areas for artesian systems. Artesian flows are common in the valley, as are springs which have small flows of alkali water derived from the nearby gravel terraces. Permeable gravel in the Polecat Bench yields water from a shallow well system. The well field that lies northwest of Powell supplies the 5,000 residents with drinking water, with a maximum water table depth of 35 feet. There are no municipal wells near the site. At the end of October, 1991, Powell will begin to receive drinking water from a water treatment facility at the Buffalo Bill Reservoir, approximately 30 miles to the southwest near Cody, Wyoming. The entire Bighorn Basin is transferring to a pipeline system from the reservoir, but the existing well field will remain in an emergency capacity (Collier 1991).

2.4.3 Hydrology

Garland Canal runs directly next to the site on the northern boundary and is separated from the warehouse by a dirt embankment. The water is diverted from the Shoshone River at the Corbett Dam and flows at an average 800 cubic feet per second (cfs) through Powell. During the peak irrigation season, the canal provides over 5,350 users with non-potable water from Powell to Garland (approximately five downstream miles). At Garland, the canal joins Bitter Creek, which is considerably smaller and flows at 57 cfs eastward.

Bitter Creek joins the Shoshone River ten miles east of Powell. The Shoshone River is the Bighorn River's largest tributary and supplies the Shoshone valley with water for its irrigation and livestock needs. Originating in Buffalo Bill Reservoir, the Shoshone flows at an average of 950 cfs until it converges with the Bighorn River 30 miles to the northeast of the city. Brown trout are found in Bitter Creek, and the Shoshone River is classified as a Class Three river with large populations of brown and rainbow trout.

3.0 PRELIMINARY PATHWAY ANALYSIS

3.1 AIR MIGRATION PATHWAY

The fire created a smoke plume containing pesticides and combusted pesticides. This plume caused the evacuation of Parkside Elementary School, located three blocks northwest of the fire site. Extensive offsite soil sampling (BB-SO-13, BB-SO-14, BB-SO-16) revealed no dangerous contamination levels, at detection limits ranging from 8 to 80 μg/kg. Clean-up of the fire debris eliminated the source of both particulates and gaseous contaminants, and no future contamination is likely.

3.2 GROUND MIGRATION WATER PATHWAY

The shallow well field that provides the 5,000 residents of Powell with drinking water lies upgradient to the site approximately three miles northwest. No municipal wells are near the fire site. Runoff water from the fire was contained in dikes on either side of the site and taken to waste disposal at a landfill pond (Ecology and Environment, Inc. 1990). The chance of contamination via migration to the Shoshone Valley aquifer is low.

3.3 SURFACE MIGRATION WATER PATHWAY

Garland Canal borders the site to the north, but a five foot dirt embankment separates the canal from the warehouse. The nearest canal intake, one-fourth mile east of the site, is diverted for irrigation purposes only. No surface water diversions for drinking water are recorded within 15 miles downstream.

Fire runoff water was contained and did not enter the canal. Dead sucker fish and brown trout were found in the canal, but analysis shows no chemical traces that might be attributed to the pesticide fire (Table 1). Although no samples of the canal water have been taken in the last year, a comparison of the upstream and downstream samples taken in 1990 shows no contamination in either (Garber 1991). The risk to surface water contamination is minimal.

3.4 SOIL EXPOSURE PATHWAY

Runoff water from the fire was contained and removed. Currently, there are soil stains and a damaged culvert in the area of containment (Photos 14 and 15). The stains could be attributed to any number of sources, given the large amounts of commercial/agricultural activity in the area. FIT staff conducting the site visit felt that it could have been used oil or some other wetting agent applied to stabilize the canal embankment. The soil surrounding the fire site was staged in drums and removed from the site. Confirmation clean-up samples show no dangerous

levels of contamination near the site, at detection limits ranging from 8 to 80 µg/kg. Future contamination via soil exposure pathway is improbable.

4.0 CONCLUSIONS

After the fire at Baker Bean and Feed, pesticide residue and unburned pesticide waste was placed in drums and removed. Runoff water was contained and taken to a landfill pond. Although the area of containment for the runoff water shows some slightly stained soil, these stains cannot be positively attributed to Baker Bean and Feed or the fire incident, due to industrial and commercial activity in the area. Post clean-up samples reflect a thorough disposal of contaminated waste. The site poses no further threat to the surrounding population and FIT suggests that no further action is required.

5.0 REFERENCES

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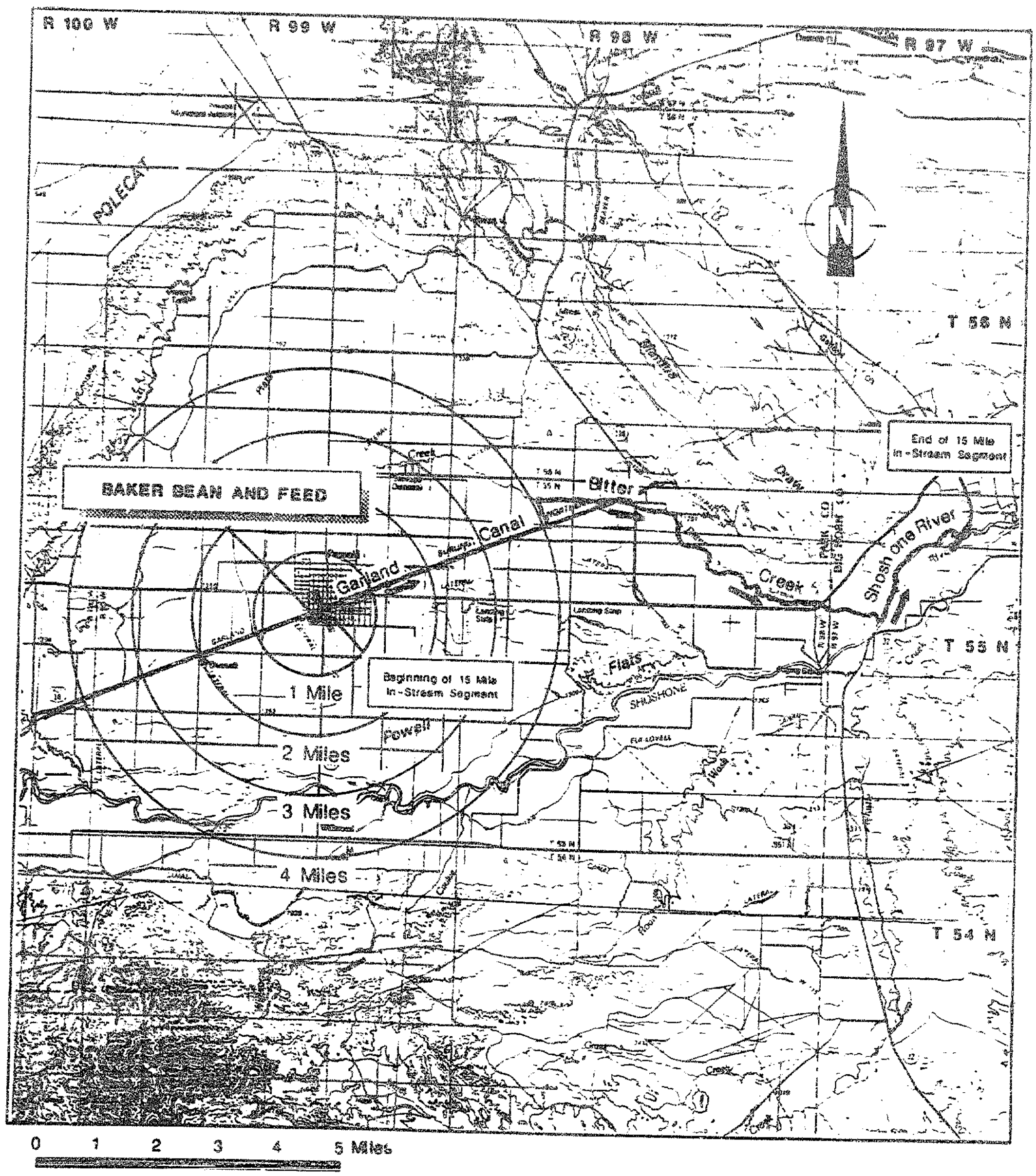


LEGEND

● Site location

Source: Powell, Wyoming Topographic Map. USGS, 1980

FIELD INVESTIGATIONS OF UNCONTROLLED HAZARDOUS WASTE SITES
TASK REPORT TO THE E.P.A.

TITLE:

BAKER BEAN AND FEED
Powell, Wyoming
RADIUS OF INFLUENCE MAP

T.D.D. F08-9108-15

ecology & environment, inc.
DENVER, COLORADO

FIG. 1

Date: 9/91 Drawn by: KE Scale: ____

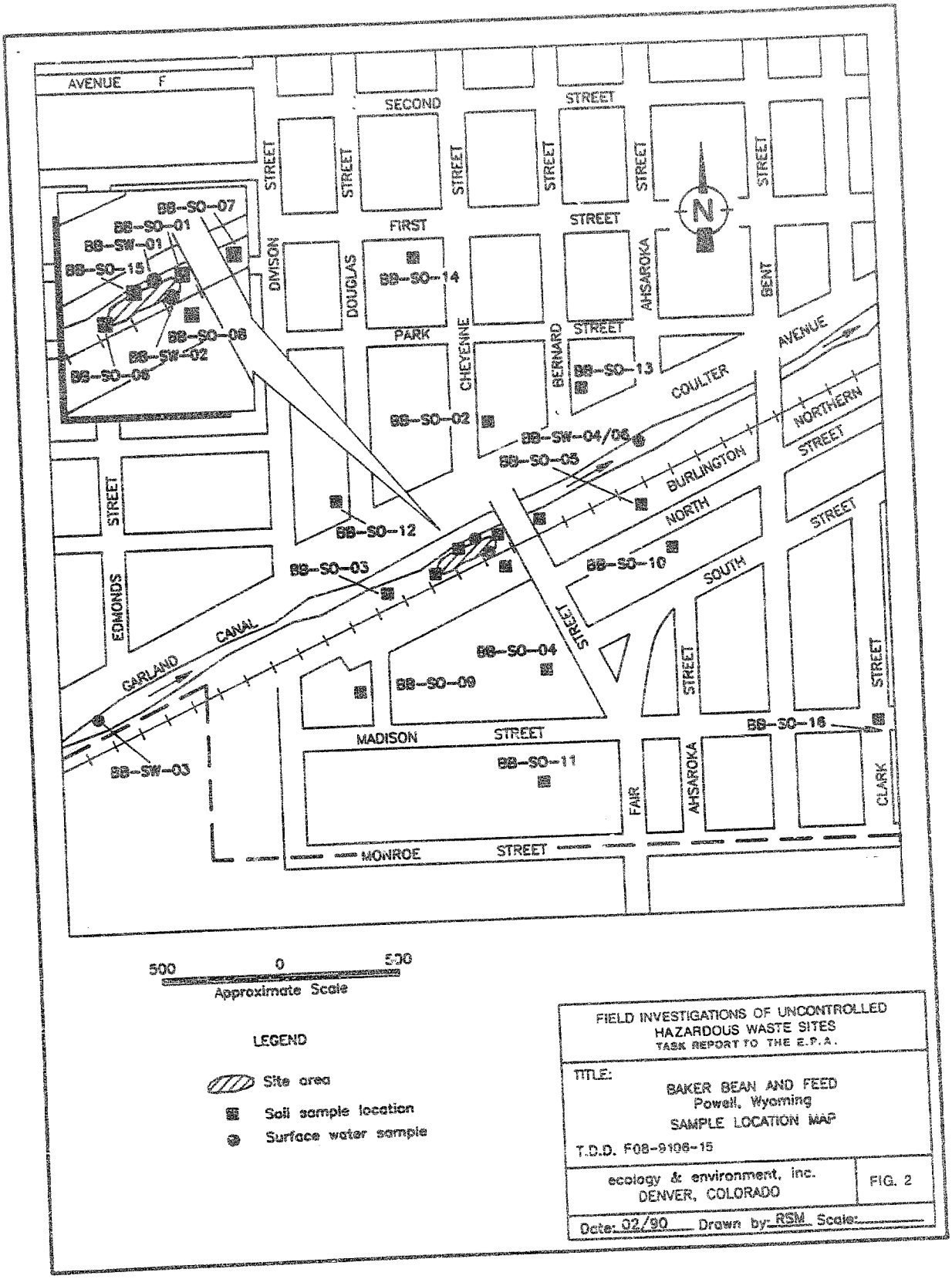

AVENUE F
SECOND STREET
FIRST STREET
PARK STREET
COULTER AVENUE
NORTHERN STREET
BURLINGTON NORTH STREET
SOUTH STREET
MADISON STREET
MONROE STREET
DIVISION STREET
DOUGLAS STREET
CHEYENNE STREET
BERNARD STREET
AHSAROKA STREET
BENT STREET
FAIR STREET
CLARK STREET
EDMONDS STREET
GARLAND CANAL
BB-SO-01
BB-SO-02
BB-SO-03
BB-SO-04
BB-SO-05
BB-SO-06
BB-SO-07
BB-SO-08
BB-SO-09
BB-SO-10
BB-SO-11
BB-SO-12
BB-SO-13
BB-SO-14
BB-SO-15
BB-SO-16
BB-SW-01
BB-SW-02
BB-SW-03
BB-SW-04/06
N
500 0 500
Approximate Scale
LEGEND
Site area
Soil sample location
Surface water sample
FIELD INVESTIGATIONS OF UNCONTROLLED HAZARDOUS WASTE SITES
TASK REPORT TO THE E.P.A.
TITLE:
BAKER BEAN AND FEED
Powell, Wyoming
SAMPLE LOCATION MAP
T.D.D. F08-9106-15
ecology & environment, inc.
DENVER, COLORADO
FIG. 2
Date: 02/90 Drawn by: RSM Scale:

FIGURE 3:

TABLE 1

PRELIMINARY RESULTS

BAKER BEAN AND FEED FIRE

TDD [illegible]-019

	BBSW01 (ug/L)	BBSW02 (ug/L)	BBSW03 * (ug/L)	BBSW04 * (ug/L)	BBSW05 (ug/L)	BBSW06 * (ug/L)
Organochlorine pesticides						
Metolachlor (Dual)	78.0	—	—	—	—	—
gamma BHC (Lindane)	3.3	0.12	—	—	—	—
Dieldrin						
gamma chlordane						
p,p'-DDE						
Endrin						
p,p'-DDT						
Organophosphorus pesticides						
Terbufos (Counter)	—	—	—	—	—	—
Malathion	3.2	2.6	—	—	.10	—
Methyl chlorpyrifos						
Carbamate pesticides						
Aldicarb (Temik)	—	—	—	—	—	—
3-hydroxy carbofuran						
BNA's						
Phenanthrene						
Fluoranthene						
Chrysene						
bis(2-ethylhexyl)phthalate						
Phenol						
2-methylphenol						
2,4-dimethylphenol						

—— Compound was analyzed for but not detected.

A blank space indicates compound was not analyzed for.

Detection limits ranged from .05 to .50 ug/L.

BBSW03- upstream from the site
BBSW04- downstream from the site
BBSW06- downstream from the site

TABLE 1 (Cont.)
PRELIMINARY RESULTS
BAKER BEAN AND FEED FIRE
TDD [illegible]

	BBSO13 * (ug/kg)	BBSO14 * (ug/kg)	BBSO15 (ug/kg)	BBSO16 * (ug/kg)
Organochlorine pesticides				
Metolachlor (Dual)	42	—	100	—
gamma BHC (Lindane)	—	—	—	—
Dieldrin			4.0	
gamma chlordane			15.0	
p,p'-DDE			8.2	
Endrin			—	
p,p'-DDT			—	
Organophosphorus pesticides				
Terbufos (Counter)	—	—	—	—
Malathion	—	—	22	—
Methyl chlorpyrifos			23	
Carbamate pesticides				
Aldicarb (Temik)	—	—	—	—
3-hydroxy carbofuran			—	
BNA's				
Phenanthrene			4 J	
Fluoranthene			4 J	
Chrysene			5 J	
bis(2-ethylhexyl)phthalate			8 J	
Phenol			—	
2-methylphenol			—	
2,4-dimethylphenol			—	

— Compound was analyzed for but not detected.
A blank space indicates compound was not analyzed for.
Detection limits ranged from 8 to 80 ug/Kg.

BBSO13- three blocks north of the site
BBSO14- two blocks southeast of the site
BBSO16- one & one-half blocks northeast of the site

TABLE 1 (Cont.)
PRELIMINARY RESULTS
BAKER BEAN AND FEED FIRE
TDD 0708-8801-019

	BBPS01 (ug/kg)	BBPW01* (ug/kg)	BBPW02* (ug/kg)	BBPW03* (ug/kg)	BBPW04* (ug/kg)	BBCU01* (ug/kg)
Organochlorine pesticides						
Metolachlor (Dual)	—	—	—	3800	—	—
gamma BHC (Lindane)	—	—	—	—	—	—
Dieldrin		—	36	450	—	—
gamma chlordane		—	—	—	—	—
p,p'-DDE		—	—	—	—	—
Endrin		—	—	17	—	—
p,p'-DDT		—	—	42	—	—
Organophosphorus pesticides						
Terbufos (Counter)	—	—	—	—	—	—
Malathion	—	—	—	—	—	—
Methyl chlorpyrifos		—	—	—	—	—
Carbamate pesticides						
Aldicarb (Temik)	—	—	—	—	—	—
3-hydroxy carbofuran		—	—	—	—	—
BNA's						
Phenanthrene		—	—	—	—	—
Fluoranthene		—	—	—	—	—
Chrysene		—	—	—	—	—
bis(2-ethylhexyl)phthalate		—	—	—	—	—
Phenol		—	—	—	—	—
2-methylphenol		—	—	—	—	—
2,4-dimethylphenol		—	—	—	—	—
EP Toxicity Pesticides max. conc. (ug/L)						
gamma BHC (Lindane)	400	—	.02	—	—	—
Metolachlor (Dual)	10000	—	1.25	211	.83	—

— Compound was analyzed for but not detected.
A blank space indicates compound was not analyzed for.
Detection limits ranged from 8 to 80 ug/Kg.

BBPW01- east side of fertilizer pile before removal
BBPW02- middle area of chemical pile before removal
BBPW03- west side of chemical pile before removal
BBPW04- bean pile before removal
BBCU01- west side of pile after clean-up

TABLE 1 (Cont.)
PRELIMINARY RESULTS
BARREL BRAN AND FEED FIRE
TDD 07X0-9001-019

	BBCU02* (ug/kg)	BBCU03* (ug/kg)	SUCKERS* (ug/kg)	BROWN TROUT* (ug/kg)
Organochlorine pesticides				
Metolachlor (Dual)	——	——	——	——
gamma BHC (Lindane)	——	——	——	——
Dieldrin	——	62		
gamma chlordane	——	——		
p,p'-DDE	——	——	50	90
Endrin	——			
p,p'-DDT	——			
Organophosphorus pesticides				
Terbufos (Counter)	——	——	——	——
Malathion	——	——	——	——
Methyl chlorpyrifos	——	——		
Carbamate pesticides				
Aldicarb (Temik)	——	——	——	——
3-hydroxyl carbofuran	——	7		
BNA's				
Phenanthrene	——	——		
Fluoranthene	——	——		
Chrysene	——	——		
bis(2-ethylhexyl)phthalate		4600 BJ		
Phenol	84000	——		
2-methylphenol	6400 J	——		
2,4-dimethylphenol	58000	——		
EP Toxicity pesticides max. conc. (ug/L)				
gamma BHC (Lindane)	——			
Metolachlor		1.69		

—— Compound was analyzed for but not detected.
A blank space indicates compound was not analyzed for.
Detection limits ranged from 8 to 80 ug/Kg.

BBCU02- south side of pile after clean-up
BBCU03- west side of pile after clean-up
SUCKERS- fish found downstream from site
BROWN TROUT- fish found downstream from site

APPENDIX A

PA QUESTIONNAIRE

Name Sherrill Nelligan

Location Powell, Park County, Wyoming

Site Name Baker Bean and Feed

Date September 16, 1991

PA QUESTIONNAIRE

F08-9106-15

MAJOR CONSIDERATIONS

A) DOES ANY QUALITATIVE OR QUANTITATIVE INFORMATION EXIST THAT MAY INDICATE AN OBSERVED RELEASE TO AIR, GROUND WATER, SOIL OR SURFACE WATER? No

Describe: _____

B) IF THE ANSWER TO #1 IS YES, IS THERE EVIDENCE OF DRINKING WATER SUPPLY CONTAMINATION OR ANY OTHER TARGET CONTAMINATION (i.e. food chain, recreation areas, or sensitive environments)? _____

Describe: _____

C) ARE THERE SENSITIVE ENVIRONMENTS WITHIN A 4-MILE RADIUS OR 15 DOWNSTREAM MILES OF THE SITE? Yes IF YES, DESCRIBE IF ANY OF THE FOLLOWING APPLY:

- Multiple sensitive environments? _____
- Federally designated sensitive environment(s)? _____
- Sensitive environment(s) downstream on a small or slow flowing surface water body? Riparian wetlands along Bitter Creek and Shoshone River.

D) IS THE SITE LOCATED IN AN AREA OF KARST TERRAIN? No

Describe: _____

E) DOES THE WASTE SOURCE LIE FULLY OR PARTIALLY WITHIN A WELLHEAD PROTECTION AREA AS DESIGNATED ACCORDING TO SECTION 1428 OF THE SAFE DRINKING WATER ACT? No

Describe: _____

F) DOES ANY QUALITATIVE OR QUANTITATIVE INFORMATION EXIST THAT PEOPLE LIVE OR ATTEND SCHOOL ON ONSITE CONTAMINATED PROPERTY? No

Describe: _____

SITE INFORMATION

1. SITE NAME: Baker Bean and Feed

ADDRESS: 313 South Fair Street

CITY: Powell COUNTY: Park STATE: WY ZIP: 82435

EPA ID: WYD151592037

LATITUDE: 44° 44' 59" LONGITUDE: 108° 46' 11"

2. DIRECTIONS TO SITE (From nearest public road): The site is at the intersection of Fair Stree* and Coulter Avenue, next to the Garland Canal in Powell, Wyoming.

3. SITE OWNERSHIP HISTORY (Use additional sheets, if necessary):

A. Name of current owner: Ralph Heare and Coy Baker

Address: 313 South Fair Street

City: Powell County: Park State: WY Zip: 82435

Dates: From 9/17/86 To Present Phone: (307) 754-2978

B. Name of previous owner: E.H. Wallace and Sons

Address: Unknown

City: _____ County: _____ State: ___ Zip: _____

Dates: From 1936 To 9/17/86 Phone: _____

Source of ownership data: Beerline, Greg, 1991, Manager, Baker Bean and Feed.

4. TYPE OF OWNERSHIP (Check all that apply):

X Private ___ State ___ Municipal

___ Federal ___ County ___ Other (describe): _____

5. **NAME OF SITE OPERATOR:** Ralph Heare and Coy Baker

ADDRESS: 313 South Fair Street

CITY: Powell **COUNTY:** Park **STATE:** WY **ZIP:** 82435

PHONE: (307) 754-2978

BACKGROUND/OPERATING HISTORY

6. **DESCRIBE OPERATING HISTORY OF SITE:** A pesticide fire was reported to Environmental Protection Agency-Emergency Response Branch (EPA-ERB) on January 17, 1990. Ecology and Environment, Inc. Technical Assistance Team (E & E TAT) responded and took samples of soil, water, pesticide debris, and confirmation clean-up.

Source of information: E & E TAT, 1990, TDD #T08-9001-019.

7. **DESCRIBE SITE AND NATURE OF SITE OPERATIONS (property size, manufacturing, waste disposal, storage, etc.):** Baker Bean and Feed is involved in retail sale and distribution of fertilizer, chemicals, bean seed, grass and alfalfa seed, and other various feeds and commercial beans.

Source of information: E & E TAT, 1990, TDD #T08-9001-019.

8. **DESCRIBE ANY EMERGENCY OR REMEDIAL ACTIONS THAT HAVE OCCURRED AT THE SITE:** EPA-ERB and E & E TAT responded to pesticide warehouse fire from January 18-20, 1990, and took numerous samples near the site. All debris from the pesticide area was removed and placed in a total of nine drums.

Source of information: E & E TAT, 1990, TDD #T08-9001-019.

9. **ARE THERE RECORDS OR KNOWLEDGE OF ACCIDENTS OR SPILLS INVOLVING SITE WASTES?** No

Describe:

Source of information:

10. **DISCUSS EXISTING SAMPLING DATA AND BRIEFLY SUMMARIZE DATA QUALITY (e.g., sample objective, age/comparability, analytical methods, detections limits and QA/QC):** Sampling objectives included detemining the extent of aerial deposition, pesticide contamination of fire and runoff water, disposal of unburned pesticide waste, and confirmation of clean-up actions. Sixteen surface soil samples, six surface water samples, one bunker gear sample, two fish tissue samples, and four waste and clean-up confirmation samples were collected January 19-21, 1990.

Source of information: E & E TAT, 1990, TDD #T08-9001-019.

WASTE CONTAINMENT/HAZARDOUS SUBSTANCE IDENTIFICATION

11. **FOR EACH SOURCE AT THE SITE, SUMMARIZE ON TABLE 1 (page 12): 1) Methods of hazardous substance disposal, storage or handling; 2) size/volume/area of all features/structures that might contain hazardous waste; 3) condition/integrity of each storage disposal feature or structure; and 4) types of hazardous substances handled.**

12. **BRIEFLY EXPLAIN HOW WASTE QUANTITY WAS ESTIMATED (e.g., historical records or manifests, permit applications, air photo measurements, etc.):**

Nine drums of pesticide fire debris were counted by E & E TAT in 1990.

Source of information: E & E TAT, 1990, TDD #T08-9001-019.

13. **DESCRIBE ANY RESTRICTIONS OR BARRIERS ON ACCESSIBILITY TO ONSITE WASTE MATERIALS:**

A new warehouse has been erected on top of the fire site.

Source of information: E & E Field Investigation Team (FIT), August 21, 1991, Site Visit.

GROUND WATER CHARACTERISTICS

14. ANY POSITIVE OR CIRCUMSTANTIAL EVIDENCE OF A RELEASE TO GROUND WATER? No

Describe: _____

Source of information: _____

15. ON TABLE 2 (page 13), GIVE NAMES, DESCRIPTIONS, AND CHARACTERISTICS OF GEOLOGIC/HYDROGEOLOGIC UNITS UNDERLYING THE SITE.

16. NET PRECIPITATION: -18 inches

SURFACE WATER CHARACTERISTICS

17. ARE THERE SURFACE WATER BODIES WITHIN 2 MILES OF THE SITE? Yes

_____ Ditches _____ Lakes _____ Pond

_____ Creeks _____ Rivers X Other Garland Canal

18. DISCUSS THE PROBABLE SURFACE RUNOFF PATTERNS FROM THE SITE TO SURFACE WATERS:

A dirt embankment separates the site and the canal, but runoff water would flow along the drainage ditch.

19. PROVIDE A SIMPLIFIED SKETCH OF SURFACE RUNOFF AND SURFACE WATER FLOW SYSTEM FOR 15 DOWNSTREAM MILES (see item #36).

20. ANY POSITIVE OR CIRCUMSTANTIAL EVIDENCE OF SURFACE WATER CONTAMINATION?

No Describe: _____

Source of information: _____

21. ESTIMATE THE SIZE OF THE UPGRADIENT DRAINAGE AREA FROM THE SITE: 5 acres

Source of information: USGS, 1966, 7.5' Series, Topographic Map, Elk Basin Southeast, Wyoming.

22. **DETERMINE THE AVERAGE ANNUAL STREAM FLOW OF DOWNSTREAM SURFACE WATERS**

Water body: Garland Canal Flow: 800 cfs

Water body: Bitter Creek Flow: 57 cfs

Water body: Shoshone River Flow: 950 cfs

Source of information: USGS, 1988, Water Resources Data, WY-88-1.

23. **IS THE SITE OR PORTIONS THEREOF LOCATED IN SURFACE WATER?** No

24. **IS THE SITE LOCATED IN A FLOODPLAIN (indicate flood frequency)?** Yes; 70 yr

25. **IDENTIFY AND LOCATE (see item #36) ANY SURFACE WATER RECREATION AREA WITHIN 15 DOWNSTREAM MILES OF THE SITE:** None

Source of information:

26. **TWO YEAR 24-HOUR RAINFALL:** 1.6 inches

TARGETS

27. **DISCUSS GROUND WATER USAGE WITHIN FOUR MILES OF THE SITE:** The 5,350 people living in Powell and the surrounding area rely on a shallow well system for potable water.

Source of information: Buchanan, Eric, 1991, City Engineer's Office.

28. **SUMMARIZE THE POPULATION SERVED BY GROUND WATER ON THE TABLE BELOW:**

Distance (miles)	Population
0 - 1/4	987
1/4 - 1/2	1348
1/2 - 1	1348

1 - 2	1348
2 - 3	150
3 - 4	200

Source of information: Erins, Glenn, 1991, Powell City Clerk.

29. **IDENTIFY AND LOCATE (see item #36) POPULATION SERVED BY SURF^~E WATER INTAKES WITHIN 15 DOWNSTREAM MILES OF THE SITE:** No diversions for drinking water are recorded within 15 downstream miles of the site.

Source of information: Feblea, Clarice, 1991, Shoshone Irrigation.

30. **DESCRIBE AND LOCATE FISHERIES WITHIN 15 DOWNSTREAM MILES OF THE SITE (i.e., provide standing crop of production and acreage, etc.):**

Brown trout are found in Bitter Creek. The Shoshone River is classified as a Class Three river with large populations of brown trout and rainbow trout.

Source of information: Pistono, Robert, 1991, Wyoming Fish and Game.

31. **IF SURFACE WATER RECREATION AREAS EXIST, CHOOSE RECREATIONAL USE CATEGORY, AND THEN DETERMINE THE POPULATION WITHIN THE ASSIGNED RADIUS FROM THE RECREATION AREA.** (Use GEMS to allocate into distance rings).

a. Capital use and access improvements X (assigned radius = 125 miles)
b. Access improvements only ____ (assigned radius = 80 miles)
c. Observed use only ____ (assigned radius = 40 miles)
d. None of the above apply and access is not restricted ____ (assigned radius = 10 miles)

32. DETERMINE THE DISTANCE FROM THE SITE TO THE NEAREST OF EACH OF THE FOLLOWING LAND USES

Description	Distance (miles)
Commercial/Industrial Institutional	1 block
Single Family Residential	1.5 blocks
Multi-Family Residential	1.5 blocks
Park	2 blocks
Agricultural	3 blocks

Source of information: E & E TAT, 1990, T08-9001-019.

33. SUMMARIZE THE POPULATION WITHIN A FOUR-MILE RADIUS OF THE SITE:

Distance (miles)	Population
onsite	5
0 -1/4	987
1/4 - 1/2	1348
1/2 - 1	1348
1 - 2	1348
2 - 3	150
3 - 4	200

Source of information: Erins, Glenn, 1991, Powell City Clerk.

OTHER REGULATORY INVOLVEMENT

34. DISCUSS ANY PERMITS:

County: ____

State: ____

Federal: ____

Other: ____

Source of information: ____

35. SKETCH OF SITE

Include all pertinent features, e.g., wells, storage areas, underground storage tanks, waste areas, buildings, access roads, areas of ponded water, etc. Attach additional sheets with sketches of enlarged areas, if necessary.

See Figure 2

N
↑

36. SURFACE WATER FEATURES

Provide a simplified sketch of surface runoff and surface water flow system for 15 downstream miles. Include all pertinent features, e.g., intakes, recreation areas, fisheries, gauging stations, etc.

See Figure 1

N
↑

TABLE 1
WASTE CONTAINMENT AND HAZARDOUS SUBSTANCE IDENTIFICATION[1]

SOURCE TYPE	SIZE (Volume/Area)	ESTIMATED WASTE QUANTITY	SPECIFIC COMPOUNDS	CONTAINMENT[2]	SOURCES OF INFORMATION
Pesticide containers (solid, powder and liquid state)	Unknown	2/3 ton	Counter 15G Dual 25G Malathion Lindane Benomyl Aldicarb	No containment, total of estimated quantity released during fire	Ecology and Environment, Inc., 1990.

1 Use additional sheets if necessary.
2 Evaluate containment of each source from the perspective of each migration pathway (e.g., ground water pathway - non-existent, natural or synthetic liner, corroding underground storage tank; surface water - inadequate freeboard, corroding bulk tanks; air - unstabilized slag piles, leaking drums, etc.)

TABLE 2
HYDROLOGIC INFORMATION [1]

STRATA NAME/DESCRIPTION	THICKNESS (ft.)	DEPTH TO WATER	HYDRAULIC CONDUCTIVITY(cm/sec)	TYPE OF DISCONTINUITY [2]	SOURCE OF INFORMATION
Quaternary Later terrace gravels	20 - 30′	35′	10^{-2}	No	Fisher, 1906.
Tertiary Laramie and associated formations	5000-7000′	—	10^{-4}	No	"

1 Use additional sheets if necessary.
2 Identify the type of discontinuity within four-miles from the site (e.g., river, strata "pinches out", etc.)

APPENDIX B

STANDARD PA FORM

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WY	D15139237

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Baker Bean and Feed	313 South Fair Street

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Powell	WY	82435	Park	029	

09 COORDINATES	LATITUDE	LONGITUDE
	44° 44' 59"	108° 46' 11"

10 DIRECTIONS TO SITE (Starting from nearest public road)

From Cody, Wyoming take Alt. 14 north approximately 30 miles to Powell. The site is at the intersection of Fair Street and Coulter Avenue, next to the Garland Canal.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Ralph Meare and Coy Baker	313 South Fair Street

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Powell	WY	82435	(307) 754-2978

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Same as above	

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER

13 TYPE OF OWNERSHIP (Check one)

X A. PRIVATE ___B. FEDERAL: _____ (Agency name) ___C. STATE ___D. COUNTY ___E.MUNICIPAL

___F. OTHER: _____ (Specify) ___G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

__A. RCRA 3001 DATE RECEIVED: MO/DAY/YR __B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: MO/DAY/YR X C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

X YES DATE 01/18/90, 08/21/91 MO/DAY/YR

___NO

BY(Check all that apply)

___A. EPA X B. EPA CONTRACTOR ___C. STATE ___D. OTHER CONTRACTOR

___E. LOCAL HEALTH OFFICIAL ___F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): Ecology and Environment, Inc.

02 SITE STATUS (CHECK ONE)	03 YEARS OF OPERATION		
___A. ACTIVE X B. INACTIVE ___C. UNKNOWN	1936 BEGINNING YEAR	Present ENDING YEAR	___ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Prior to clean-up at the fire site, stored pesticides included Lindane, Malathion, Isotox seed treat, Benlate DF, Temik, Counter and Dual 25G.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Pesticide residue may have traveled offsite to surface water, ground water, and/or absorbed into the surrounding soil.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous conditions and Incidents)

___A. HIGH (Inspection required promptly) ___B. MEDIUM (Inspection required) ___C. Low (Inspect on time available basis) X D. NONE (No further action needed. Complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)			03 TELEPHONE NUMBER
Luke Chaves	EPA - Region VIII			(303) 293-1869
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Sherrill E. Nelligan	EPA	E & E - FIT	(303) 757-4984	09/16/91 MO/DAY/YR

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WY	0151592037

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A. SOLID
- X B. POWDER, FINES
- ___ C. SLUDGE
- ___ D. OTHER _____ (Specify)
- ___ E. SLURRY
- X F. LIQUID
- ___ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS 2/3

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- ___ B. CORROSIVE
- ___ C. RADIOACTIVE
- X D. PERSISTENT
- X E. SOLUBLE
- ___ F. INFECTIOUS
- ___ G. FLAMMABLE
- ___ H. IGNITABLE
- ___ I. HIGHLY VOLATILE
- ___ J. EXPLOSIVE
- ___ K. REACTIVE
- ___ L. INCOMPATIBLE
- ___ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES	1335	pounds	
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
PSD	Counter 15G	13071-79-9	Unknown	Unknown	
PSD	Dual 25G	51218-45-2	"	"	
PSD	Malathion	00121-75-5	"	"	
PSD	Lindane	00058-89-9	"	"	
PSD	Benomyl	17804-35-2	"	"	
PSD	Aldicarb	00116-06-3	"	"	

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

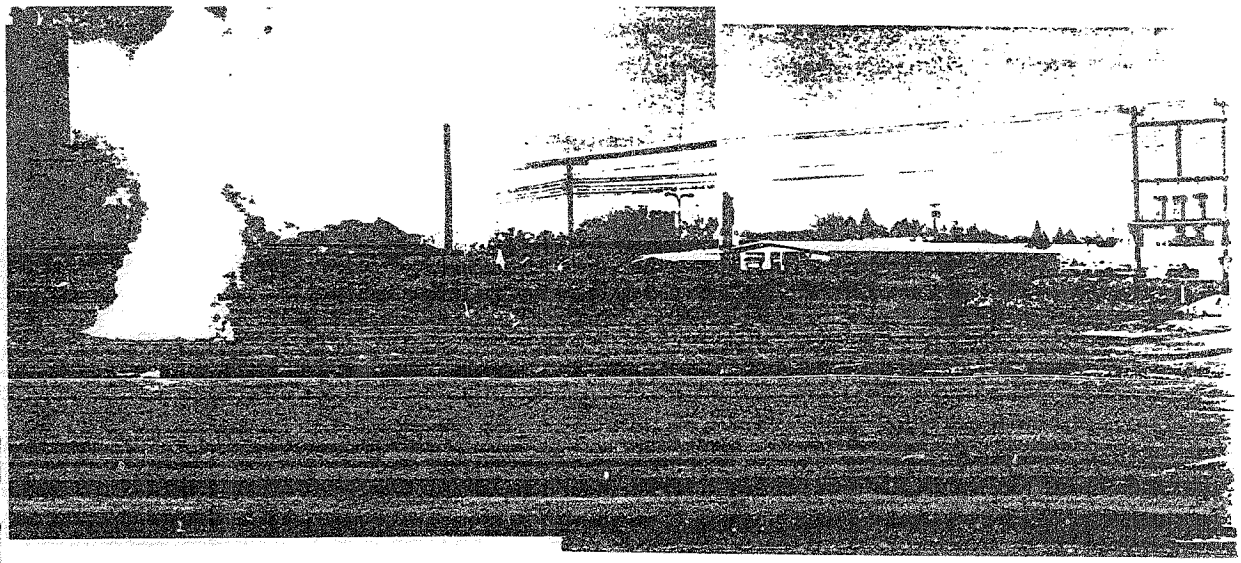
Ecology and Environment, Inc.; Technical Assistance Team (TAT), TDD #T08-9001-019.
Farm Chemicals Handbook, 1991.

EPA FORM 2070-12 (7-81)

APPENDIX C

PHOTO LOG

Photo 1



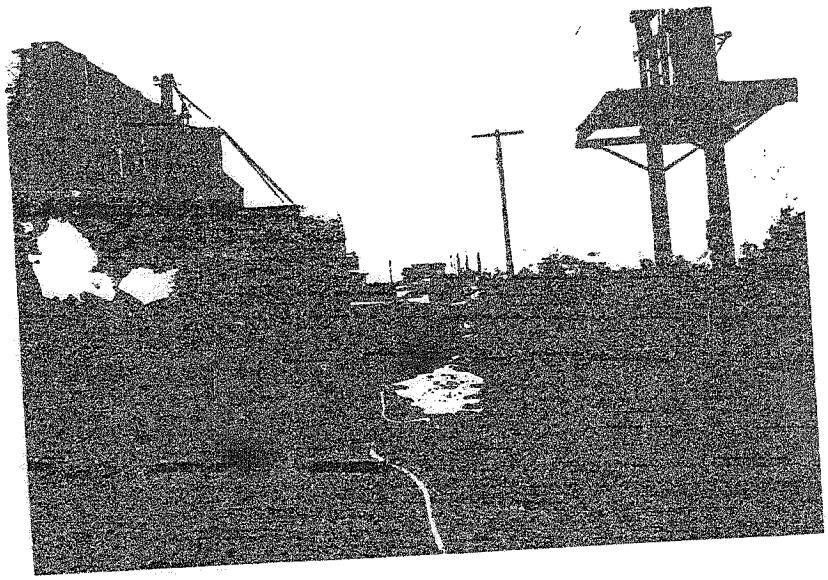
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Panorama of fire site, facing northwest.

City: Powell County: Park State: WY
Date: January 18, 1990 Time: 1320 Hours
Photographer: Abbennaus/Morrison
Film: 35 ASA: 400 Location of Negative: EPA-ERB
File: T08-9001-019
Witness: Abbennaus/Morrison
Process: Safeway
Paper: Kodak

Photo 2



OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Looking east of fire site of fire hose water runoff.

City: Powell County: Park State: WY
Date: January 20, 1990 Time: 1340 Hours
Photographer: Abbenhaus/Morrison
Film: 35 ASA: 400 Location of Negative: EPA-ERB
File: T08-9001-019
Witness: Abbenhaus/Morrison
Process: Safeway
Paper: Kodak

Photo 3

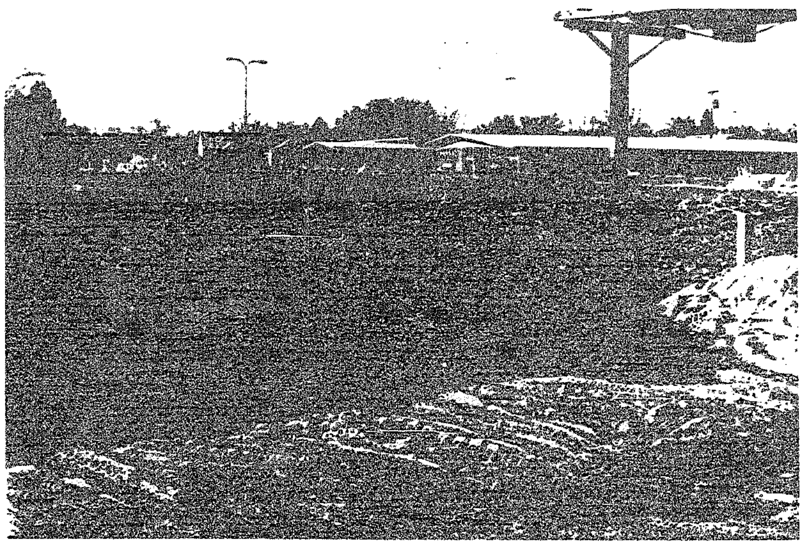
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Reconstructed berm at fire site.

City: Powell County: Park State: WY
Date: January 20, 1990 Time: 1340 Hours
Photographer: Abbennaus/Morrison
Film: 35 ASA: 400 Location of Negative: EPA-ERB
File: T08-9001-019
Witness: Abbennaus/Morrison
Process: Safeway
Paper: Kodak

Photo 4



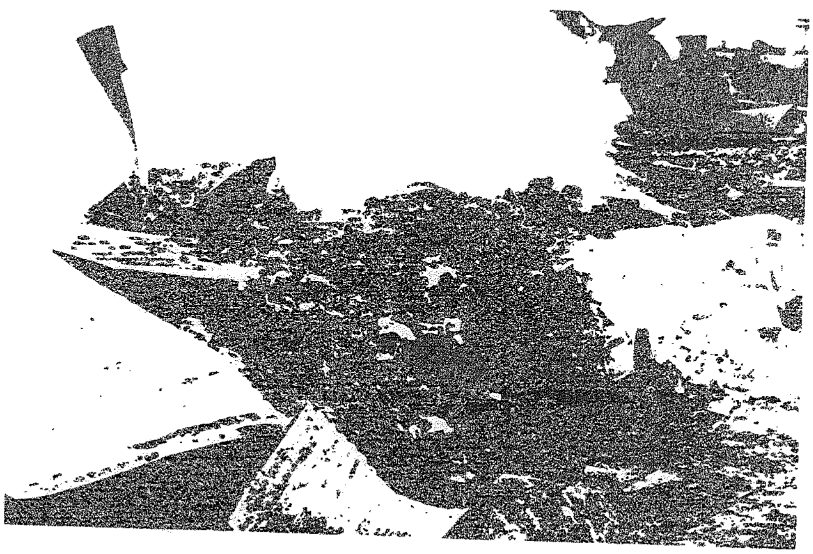
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Bermed area facing northwest.

City: Powell County: Park State: WY
Date: January 18, 1990 Time: 1320 Hours
Photographer: Abbenhaus/Morrison
Film: 35 ASA: 400 Location of Negative: EPA-ERB
File: T08-9001-019
Witness: Abbenhaus/Morrison
Process: Safeway
Paper: Kodak

Photo 5



OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Picture of pesticide waste pile on building floor where fire occurred.

City: Powell County: Park State: WY

Date: January 21, 1990 Time: 0930 Hours

Photographer: Abbennaus/Morrison

Film: 35 ASA: 400 Location of Negative: EPA-ERB

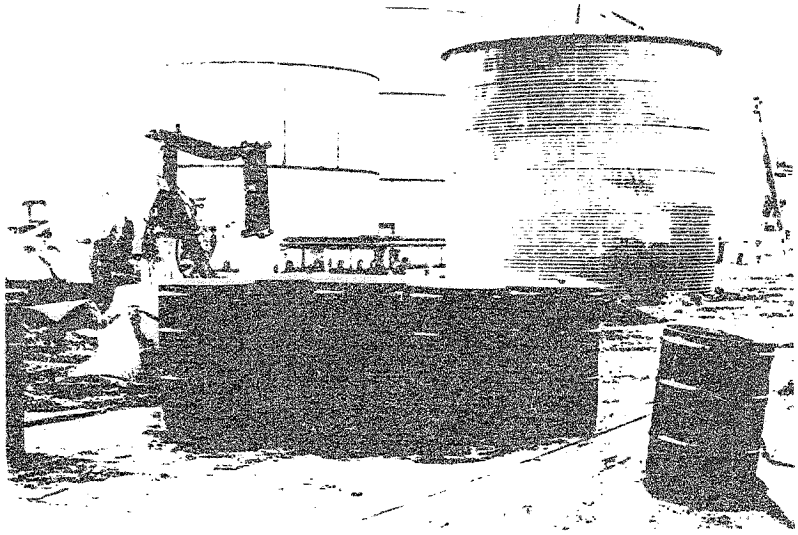
File: T08-9001-019

Witness: Abbenhaus/Morrison

Process: Safeway

Paper: Kodak

Photo 6



OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Drummed up waste of pesticide pile at the fire site.

City: Powell County: Park State: WY

Date: January 21, 1990 Time: 1200 Hours

Photographer: Abbennaus/Morrison

Film: 35 ASA: 400 Location of Negative: EPA-ERB

File: T08-9001-019

Witness: Abbennaus/Morrison

Process: Safeway

Paper: Kodak

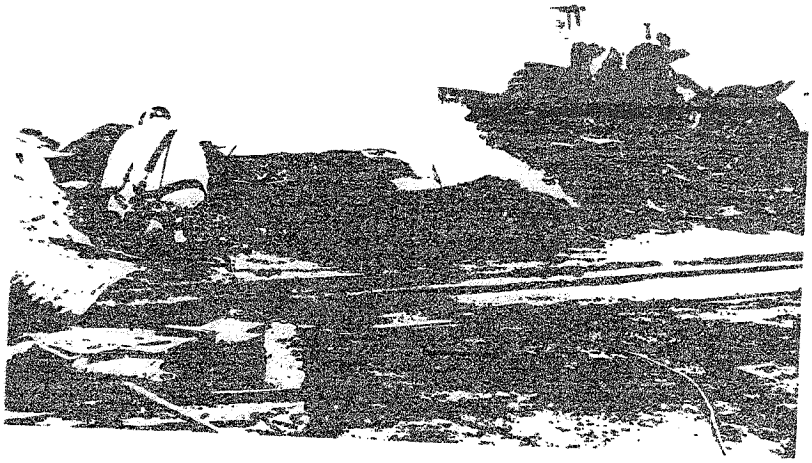
Photo 7

OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Cleaned up pile of pesticide waste remains. Area of where pesticides were located, all removed.
City: Powell County: Park State: WY
Date: January 21, 1990 Time: 1200 Hours
Photographer: Abbenhaus/Morrison
Film: 35 ASA: 400 Location of Negative: EPA-ERB
File: T08-9001-019
Witness: Abbenhaus/Morrison
Process: Safeway
Paper: Kodak

Photo 8



OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Baker Bean and Feed - Pesticide Fire

Location: Taking cleanup confirmation samples.

City: Powell County: Park State: WY
Date: January 21, 1990 Time: 1200 Hours
Photographer: Abbenhaus/Morrison
Film: 35 ASA: 400 Location of Negative: EPA-ERB
File: T08-9001-019
Witness: Abbenhaus/Morrison
Process: Safeway
Paper: Kodak

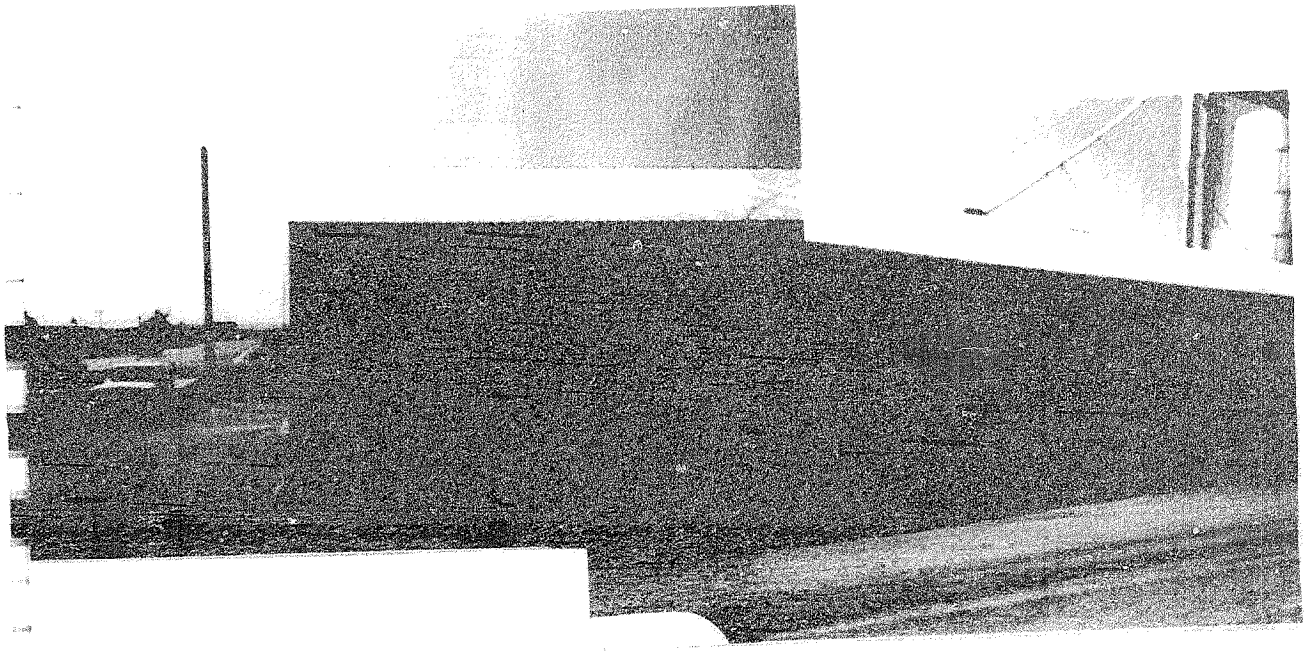


PHOTO 9: NEW BAKER BEAN & FEED WAREHOUSE, BUILT ON SAME CONCRETE FOUNDATION AS OLD WAREHOUSE. LOOKING SOUTHWEST, WITH PORTION OF GARLAND CANAL SHOWN AT FAR RIGHT.

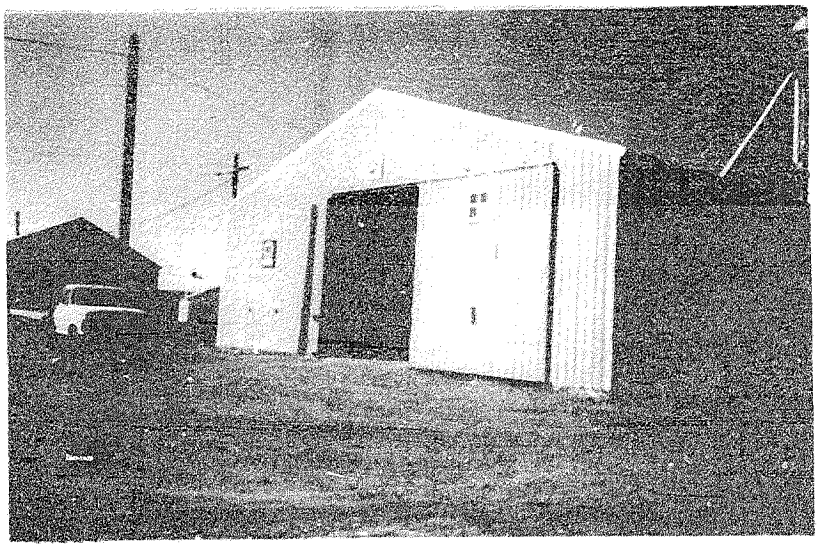


PHOTO 10: EAST ENTRANCE TO NEW WAREHOUSE.

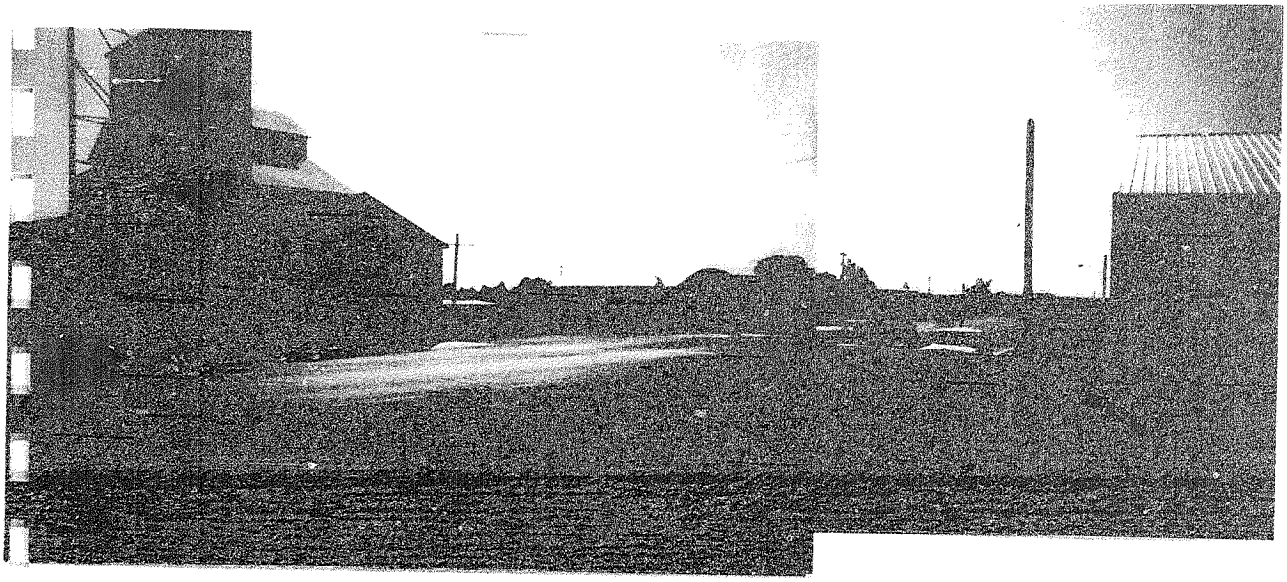


PHOTO 11: BAKER BEAN & FEED OFFICE ACROSS FAIR STREET, LOOKING EAST FROM WAREHOUSE.

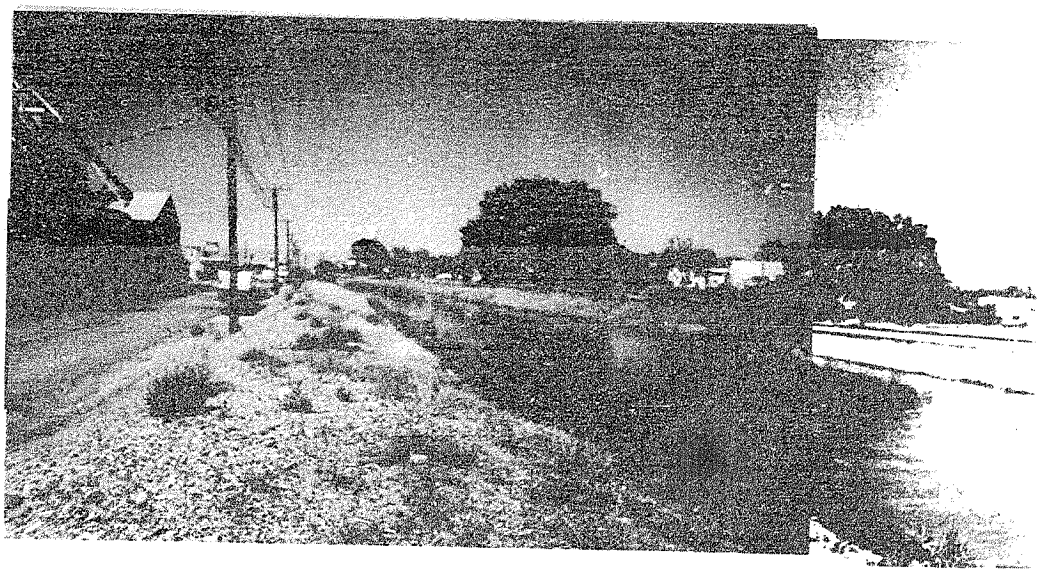


PHOTO 12: DIRT EMBANKMENT SEPARATING WAREHOUSE AND GARLAND CANAL, LOOKING SOUTHWEST.

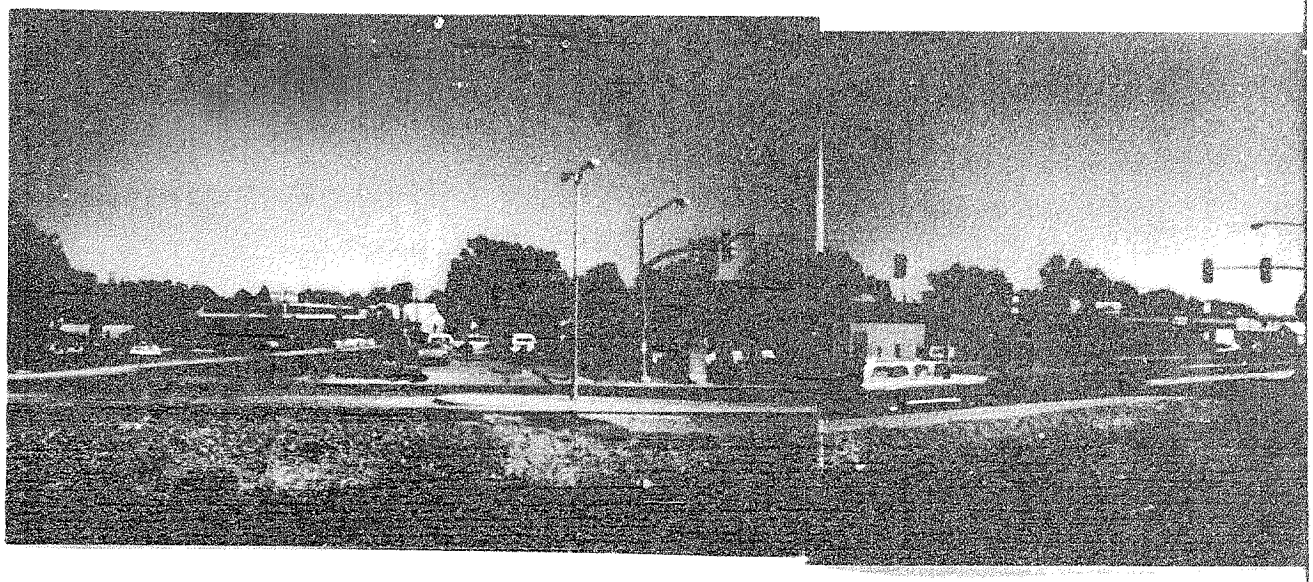


PHOTO 13: COMMERCIAL BUILDINGS ACROSS THE GARLAND CANAL. FACING NORTH.

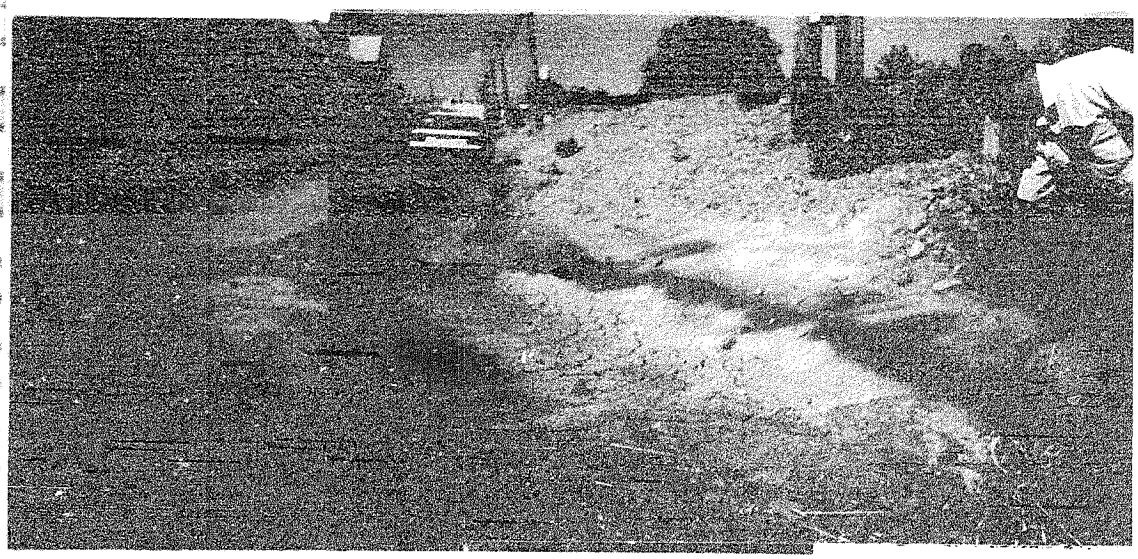
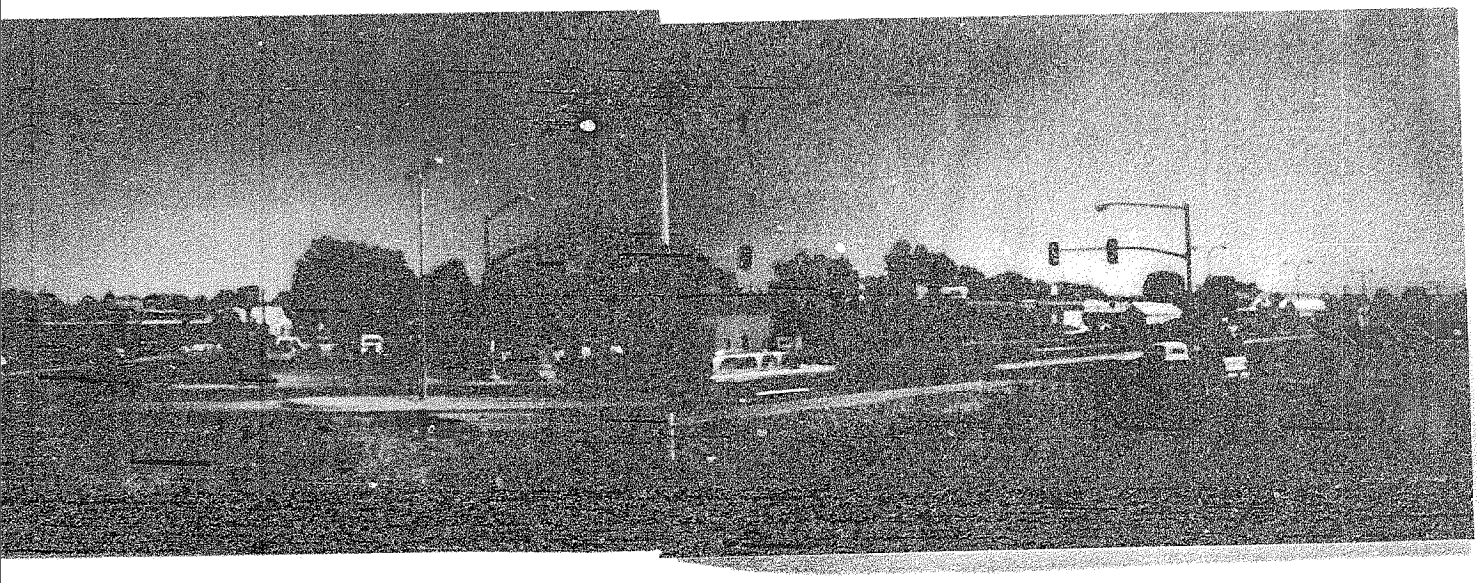
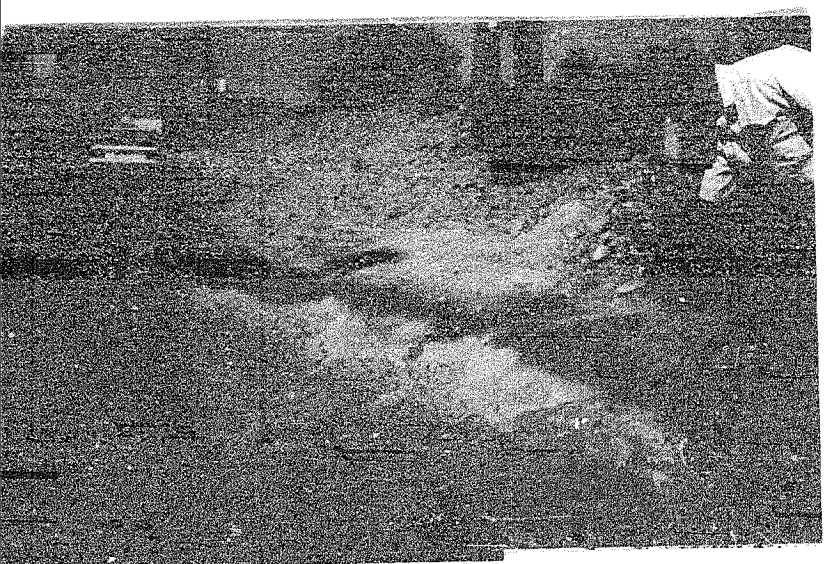


PHOTO 14: STAINED SOIL IN AREA OF FIRE WATER RUNOFF, NEAR EMBANKMENT, FACING WEST.



RCIAL BUILDINGS ACROSS THE GARLAND CANAL, FACING NORTH.



NED SOIL IN AREA OF FIRE WATER RUNOFF, NEAR EMBANKMENT,
NG WEST.

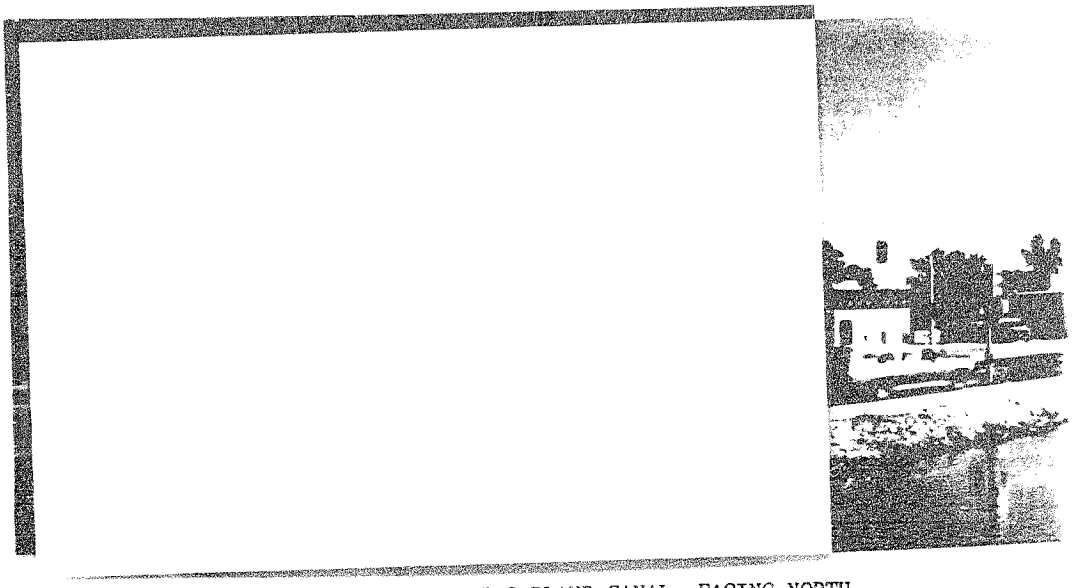


PHOTO 13: COMMERCIAL BUILDINGS ACROSS THE GARLAND CANAL, FACING NORTH.

PHOTO 14: STAINED SOIL IN AREA OF FIRE WATER RUNOFF, NEAR EMBANKMENT, FACING WEST.

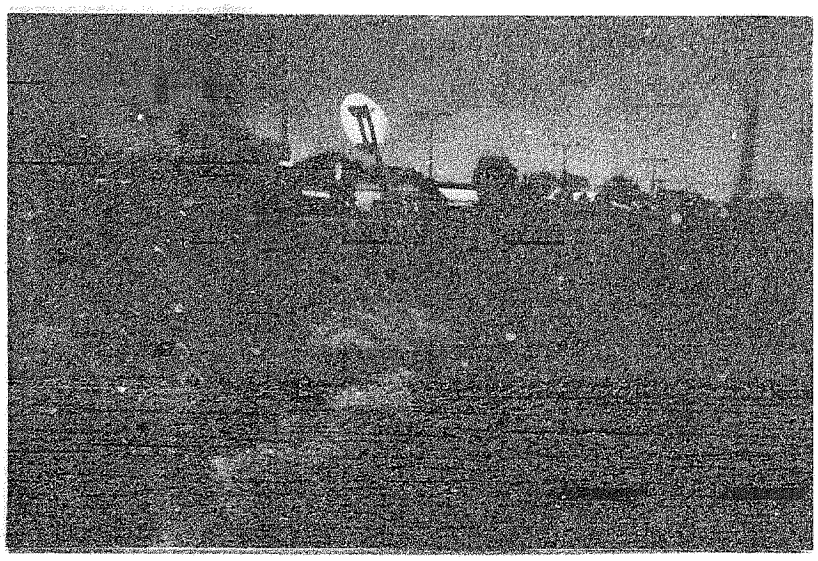


PHOTO 15: DAMAGED CULVERT DRAIN, NEAR STAINED SOIL FACING EAST.